2. METHODOLOGY

2.1 GENERAL PROCEDURES

Eight sites on Chincoteague Island were selected by EPA for evaluation (Figure 5). Wetland evaluations were made using the methodology described in A Method for Wetland Functional Assessment (Adamus and Stockwell 1983). The evaluations began with a field investigation. Each site was visited at least twice during field trips to Chincoteague Island in August and September of 1985. Very wet conditions were prevalent at the sites during August following the recent passage of Hurricane Danny. Normal to dry conditions were present during September.

During the field investigation, each site was surveyed on foot. The dominant vegetation was identified, soils were examined, and notes were made on the physiochemical (salinity, water depth, pH) and biological (fish and wildlife observations) factors that are relevant to the evaluation procedure.

The major wetland types within each site were identified as defined by Cowardin et al. (1979). As defined in the specified assessment technique, each site was considered to be a separate Wetland Impact Area (WIA) a term that is synonymous with "wetland study area." Two exceptions exist: the Fowling Gut and Mire Pond Scrub-Shrub Systems were separated into estuarine and palustrine portions based on the findings of the field investigations and each portion was evaluated separately.

After the field investigation was completed, the questions from Adamus (1983) on Forms A and B were answered and recorded on Response Sheets A1 and B1, respectively, for each WIA. Comments were recorded where necessary to clarify interpretations of some questions on Forms A and B.

These data were used to assess each WIA for the following functions (Sections 2.1.2 and 2.2.2, in Adamus 1983):

Groundwater Recharge and Discharge
Flood Storage
Shoreline Anchoring
Sediment Trapping
Long-Term and Seasonal Nutrient Retention
Downstream and In-Basin Food Chain Support

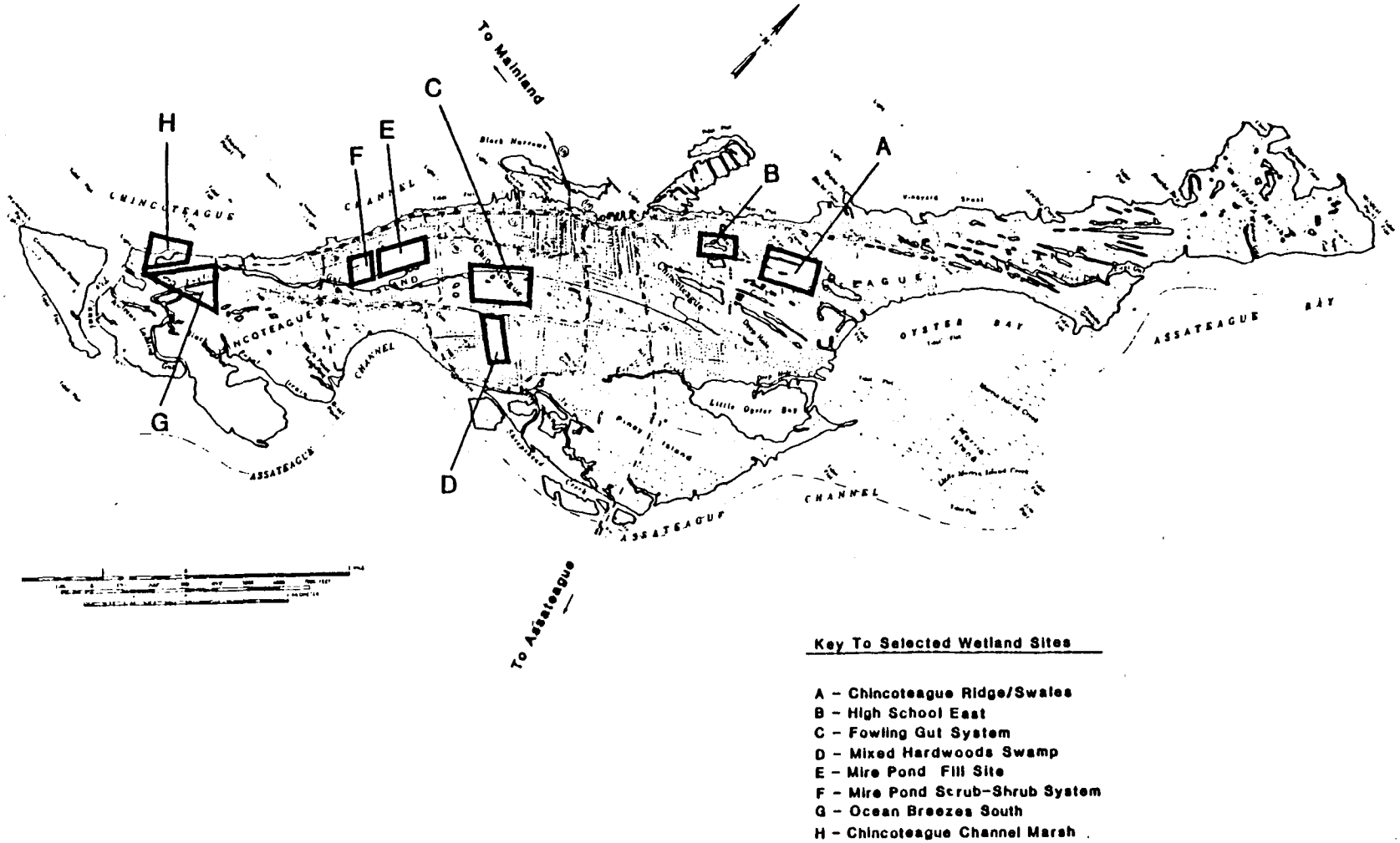

Figure 5. Location map for selected wetlands on Chincoteague Island, Virginia.

Fishery Habitat
Wildlife Habitat
Active Recreation
Passive Recreation and Heritage

Form C was not used in this project in accordance with previous agreements with EPA and FWS. The ratings that resulted from this assessment were recorded on Summary Sheet D for each WIA.

The results of the site evaluations are summarized in table form in Subsection 4.2. A site description, Forms A1 and B1, Summary Sheet D, and Comments regarding questions on Forms A and B are provided in Chapter 3 for each WIA. The Adamus (1983) method should be consulted for the questions answered on Forms A1 and B1 and the keys used to derive the ratings on Summary Sheet D.

2.2 MAPPING

Maps in this document do not meet mapping specifications and are for schematic purposes only. These maps (Figures 6-12) should not be used for Federal or State jurisdiction determination.

2.3 DEFINITIONS AND WETLAND TERMINOLOGY

Wetlands terminology is from Cowardin et al. (1979). Definitions of terminology from Adamus and Stockwell (1983) are as follows. See original reference for detailed explanation.

Basin - The aquatic area is composed of the wetland plus adjoining deep open water, if any.

Functional Watershed - (This term is not described for each site on Chincoteague because of its vague nature.) The total of all areas, including the subwatershed, as well as areas lower and perhaps higher, which drain into a focal point where the effect of the wetland's services to society would hypothetically be felt to the greatest degree.

Subwatershed - The terrestrial areas whose runoff drains into the wetland or basin, and not into lakes, streams or wetlands which are not contiguous to the wetland or basin.

Wetland Impact Area (WIA) - The portion of the wetland that will experience any of a series of possible changes (described in Adamus and Stockwell, 1983). For the purposes of this study, the chosen wetland study sites are the WIA's.

2.4 AERIAL PHOTOGRAPHY

Recent aerial photography was provided by the EPA. Historical photography from as early as 1943 came from the photographic collection at the University of Virginia.

2.5 DETERMINATION OF HYDROLOGIC FUNCTION

Detailed hydrological studies were outside the scope (and budget) of this study. Numerous observations were made during periods of seasonally low and high water. Statements made in the site description sections are based on our experience as hydrologists and represent only our expert opinion. Estimations about hydrologic circulation, flood storage capacity, groundwater recharge and discharge and nutrient retention capacity were made before calculating the Adamus values.